

## DETACHMENT OF THE DURA MATER BY CONTRE-COUP.

If this form of injury can occur, as some observers affirm, it should be the result of exhaust or suction at the moment when the lagging brain suddenly separates from a portion of the cranial wall against which it has been lying. This explanation assumes that the brain is not in contact with the struck side of the skull—its more usual position—but is lying against the opposite side, probably from some exceptional cause. This injury is said to occur only in the squamous region, where the dura mater is less firmly attached than elsewhere.

## DETACHMENT OF THE DURA MATER BY DIRECT BLOW WITHOUT FRACTURE.

Sir Charles Bell pointed out that if *post mortem* the skull be struck sharply with a mallet, although not violently enough to fracture the bone, the dura mater may be locally detached. The cause of this I would explain as follows:

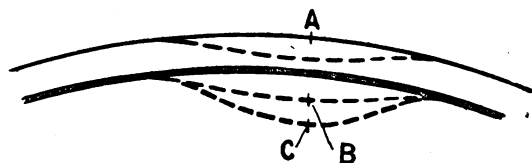


Fig 3.

The space between the lines represents bone, the thick line represents the dura mater.

The bone is slightly flexible and very elastic. If a blow be received at any point, as A, Fig. 3, the bone and dura mater will be depressed for a moment, say as far as B. The excursion may be very small, but the velocity very great. The elasticity of the bone will cause it to return instantly to its first position, but the dura mater, having no such elasticity, will continue to move in the first direction (say as far as C), and thus the bone and dura mater will separate from one another, even though this may cause a momentary vacuum between them.

## THE THERAPEUTICS OF RHEUMATOID ARTHRITIS.

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In studying the subject of rheumatoid arthritis, I have been greatly impressed by the various standpoints from which competent observers have viewed it; also by the many different conditions and circumstances under which it makes its appearance, and not less by the fact that treatment so markedly beneficial in other ailments, accompanied by almost similar joint symptoms, does no good—nay, sometimes even does harm—in this disease.

Most authorities seem to agree that the disease is progressive, that the prognosis is very unfavourable, and that those cases that are cured without deformity only attain that much-desired goal with difficulty.

The exceptional facilities which residence in Buxton gives for seeing this disease in its various forms has enabled me to accumulate a fairly complete series of data concerning it, and this experience has made me a firm believer in the "dystrophic" theory of its causation. This theory, first mooted by Remak, was brought prominently before the profession by Dr. W. M. Ord, whose classic address at the meeting of the British Medical Association at Belfast in 1884 first drew my attention to the subject. Remak contended that certain articular affections were due to irritative states of the spinal marrow and of the sympathetic nervous system, and he suggested the name of "arthritis myelitica" for those cases which up to then had borne the name of "arthritis deformans." Dr. Ord pointed out three important facts: (1) That certain changes in the nutrition of the joints take place through the influence of the nervous system; (2) that certain organs, especially the uterus and ovaries, have the power, through centripetal nervous influence, of producing con-

siderable excitement in the spinal cord, which frequently reflects this irritation on to certain joints; that in cases of debility and anæmia the reflex irritability of the spinal cord is greatly increased.

Whatever the variety of the disease, the subjects of it will generally be found to have had the power of resistance of their nervous systems weakened by anxiety or other similar cause, or the reflex irritability of their spinal centres increased by debility or anæmia. It is not to be wondered at if joints already the seat of lesions, whether rheumatic, gouty, or inflammatory, should take on, when either one or both of the foregoing conditions of loss of resisting power, or increase of reflex irritability in the joint centres, are present, changes of a special kind bearing a family resemblance to the local trouble from which they started, but differing greatly both as regards prognosis and treatment.

I classify my cases as follows:—First, into two divisions, according to the manner of invasion (1) acute, (2) gradual. Secondly, into groups based as far as possible on the probable exciting causes of the disease:

1. Rheumatic: (a) Cases following acute or subacute rheumatism, local or general; (b) mixed cases, subacute or chronic rheumatism running concurrently with rheumatoid arthritis.

2. Gouty: (a) Cases following acute or subacute gout; (b) cases of gout running concurrently with rheumatoid arthritis, sometimes with more or less acute gouty attacks coming on during the course of the disease.

3. Utero-ovarian: A very large class, the chief exciting causes of which seem to me metritis, menorrhagia, dysmenorrhœa, ovaritis, the climacteric period, premature menopause.

4. Phthisical and Strumous: Cases preceded by anæmia and marked debility, often having a family history of phthisis or struma.

5. Neurotic: Cases having either a neurotic family history or broken-down nervous systems; they often follow exhausting illness and other causes of depressed nerve power as influenza, anxiety, shock, worry, hard work, oversuckling, etc.

6. Local: Injury to a joint or joints, either from mechanical or inflammatory causes, or from changes of age. I include in this group many cases of monarthritis, such as the senile hip.

Important points are: (1) Early diagnosis; (2) recognition of the special variety of the disease with which we have to deal; (3) the use of remedies which will act not only upon the local joint mischief, but also upon the original cause of the disease, upon nutrition generally, and especially upon the nervous supply to the joints. As a rule, I have found the following drugs and methods more or less harmful, as indeed are all forms of treatment which exercise a debilitating influence:—Soda salicylate, potassium iodide, alkalies generally, colchicum, bromides, Turkish, Russian, and vapour baths, and very hot immersion baths whether mineral or plain. Sulphur, guaiacum, and ichthyol have, in my hands, given negative results. There are certain remedies, however, which I find most useful in nearly every case of rheumatoid arthritis, whatever its base may be, as they fulfil the indications which I have before mentioned, and upon which I would lay special stress, namely, to soothe and strengthen the nervous system, and to improve the general health, and these are galvanic baths, constant and alternating, and as an adjunct wine of cod-liver oil.

## THE GALVANIC BATH.

Dr. Julius Althaus in 1872 suggested the systematic use of electricity in rheumatoid arthritis. The late Dr. Steavenson, of St. Bartholomew's, obtained some excellent results from the use of the galvanic bath, which is, in my experience, by far the most efficient method of applying electricity in the treatment of this disease. I use it in two forms (1) constant current, (2) alternating current. The bath is given at a temperature of from 92° to 94°, and lasts from ten to twenty minutes, the dosage being carefully regulated by an Edelman's galvanometer. The constant current is especially useful in cases where there is an excessive amount of pain and irritability, and is also of exceptional service in many cases of the utero-ovarian variety. The alternating current, carefully regulated as regards voltage, passes backwards and forwards through the patient, from 50 to 100 times in the

second as required. There is not the slightest pain, shock, or discomfort in taking either of these baths, which is a point of no small importance in dealing with delicate and nervous patients. The alternating current has a remarkable effect upon nerve nutrition, and greatly helps metabolic changes. By means of a branched cord and a spade electrode any special joint or nerve may be acted upon. This current I find most useful, and for my knowledge of it I am indebted to my friend Dr. Lewis Jones, physician in charge of the electrical department at St. Bartholomew's, who holds a very high opinion as to its value. I do not consider that the ordinary faradic bath is of service in these cases. I have observed the following effects, in a greater or less degree, attend the use of the galvanic baths in the great majority of the cases treated: (1) definite increase in strength, both nervous and muscular; (2) improvement of appetite, digestion, and general nutrition; (3) slowing and steadying of pulse (in acute cases); (4) marked decrease of joint swelling and pain; (5) even in chronic cases, improvement in power of movement and arrest of muscular atrophy.

The acute form of rheumatoid arthritis is probably one of the most terrible non-mortal ailments known; it frequently comes on in young subjects, and progresses more or less rapidly till it leaves the sufferer a crippled wreck.

Most of these patients are in feeble health, and there is often a neurotic or phthisical family history present. They should be given rest both of body and mind, and have steady and somewhat forced feeding, with carefully prepared nutritious food. In many cases pronounced benefit is found if the patient is placed under the care of strangers—in fact, a course of "Weir-Mitchellism," with this difference: that the patient should, on a reclining wheeled chair, spend as much time out of doors as possible, and that the constant current galvanic bath should at first take the place of massage; this treatment, with cod-liver oil wine and the liq. auri et arsen. bromid., has given excellent results in many severe cases. I would lay special stress on the absolute need in really bad cases of isolation from friends and relatives, which I regard as a most important element in the treatment. I have seen many patients in whom under this treatment the persistently raised temperature became normal, the rapid pulse slowed, and the joint pain decreased in a way which was remarkable. In several cases when all the symptoms were improving except the rapidity of the pulse, the artificial "Nauheim" baths, which I use largely in the treatment of cardiac affections, did excellent service.

Under the heading of the various groups I mention briefly certain remedies which I have found of service:

1. Salicin, quinine salicylate, iodine, iodide of iron.
2. Colchicine salicylate, quinine salicylate.
3. Cimicifugin, viburnum, hydrastin, cannabis Indicus.
4. Red marrow of bone, virol, hypophosphites.
5. Nux vomica, sumbul.
6. Blisters.

In Group 3 I have found great improvement follow gynaecological treatment of local lesions.

#### DIET.

I am strongly in favour of a generous dietary, giving as much nutritious food as can be digested and assimilated. In rheumatic and gouty cases a modified "Salisbury" dietary is most useful, the carbohydrates being cut down as much as possible, and increased quantities of animal food being given, any ill effects from which are guarded against by the drinking of hot water one hour before meals.

#### DRY MASSAGE.

In the early stages of the disease, or when there is much tenderness of joints, I am sure that local massage is harmful; as a general treatment, however, having a special effect upon the nervous system, I have seen it do much good. It is most helpful, after the acute stage has passed over, in the general form of the disease, and combined with joint movements is often effective in the later stages of all classes of rheumatoid arthritis.

#### HYDROTHERAPY.

This is a most important form of treatment for good or ill, and requires to be most carefully and discreetly used. My observations have convinced me that frequent and prolonged

Russian, vapour, Turkish, and hot immersion baths, while they may at first somewhat relieve the local symptoms, eventually do considerable harm. Where the patients are of gouty or rheumatic type, and are in comparatively robust health, fairly vigorous hydrotherapy may be used. The so-called wet massage, given either in the reclining or the sitting posture, with douching, is useful, as it gives the benefit of thermal treatment with the tonic effect of the massage on the nervous system, and of the *pétrissage* on the muscles and lymphatics. It is to the excellent and scientific manner in which this treatment is administered there that Aix-les-Bains has attained so high a reputation for the treatment of rheumatoid arthritis. The more any case of rheumatoid arthritis is allied to gout or rheumatism the more successful is wet massage or any other form of hydrotherapy likely to be. Other most useful spas are those in elevated and bracing situations such as Buxton, Harrogate, and Strathpeffer. I do not wish to make any extravagant claims on behalf of Buxton; it has long had a great repute for the treatment of atonic gout and rheumatoid arthritis, due no doubt to two great advantages:

1. Its situation on the mountain limestone, 1,000 feet above the sea level, gives it a peculiarly bracing air and a rapidly drying surface, whilst the surrounding hills shelter it from cold winds.

2. The mineral water is at a temperature of 82° F.; this is carefully heated as required, but its undoubted influence over arthritis in any form is most pronounced the nearer you keep it to its natural temperature. This is of great importance when we consider that very hot baths are so harmful in rheumatoid arthritis. Some patients are never able to take a bath at so low a temperature as 82°, but all can bathe with comfort at 92° or 94°. The water at the natural temperature has an especially tonic effect on the nervous system, a most important element in dealing with so debilitating a disease.

I have found superheated air useful in the local treatment of the joint thickening of chronic cases. I have had the opportunity, in some instances, through patients again coming to Buxton, and in others through the courtesy of their medical advisers, of following up the after-history of a number of cases treated on the lines laid down, and have been greatly pleased to find that the good effects have in most cases been maintained, and that in a not inconsiderable number progressive improvement has been shown.

I am wishful to avoid any exaggeration of the results attained, and have in consequence to confess to many comparative failures, and to not infrequent disappointments, especially during my earlier investigations.

Dealing with cases of a progressive disease of this class where the lesions are so severe, it would be ridiculous to pretend that you can "cure" them as you can many rheumatic and gouty patients by a single course, or that the treatment I have suggested is a panacea for all cases of rheumatoid arthritis, but I do know this, that my own results are at least 50 per cent. better than they used to be. I attribute this in some degree to an attempt to differentiate the starting point of the disease, but more especially and directly to the soothing, nourishing, and at the same time tonic influence of the galvanic bath on both the central and peripheral nervous systems; and I am becoming more and more hopeful that by its use we may to a considerable extent, if not completely, convert a progressive arthritis into a simple one—an enormous gain.

At the annual general meeting of the Pathological Society of London, which will be held on Tuesday next at 8.30 p.m., Mr. Stanley Boyd will move "That in the opinion of this meeting it is expedient that ladies who are duly qualified medical practitioners should be eligible for the membership of this Society." At the same meeting the new officers and members of Council proposed by the retiring Council will be balloted for—namely, four new vice-presidents, Drs. W. R. Gowers and Samuel West, and Messrs. Arthur Barker and S. G. Shattock. Dr. R. G. Hebb will be proposed for the office of Honorary Secretary in succession to Dr. Newton Pitt, who will be proposed for election to the Council, together with Drs. Julius Dreschfeld and H. M. Murray, and Messrs. W. G. Spencer, H. Betham Robinson, Raymond Johnson, and Leopold Hudson.